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It Can Happen Here

Example of severe rickets in a sunny clime.

LEST WE FORGET—we who are of the vitamin D era—severe rickets is not yet eradicated, and moderate and mild rickets are still prevalent. Here is a white child, supposedly well fed, if judged by weight alone, a farm child apparently living out of doors a good deal. This boy was reared in a state having a latitude between 37° and 42°, where the average amount of fall and winter sunshine is *equal to that in the major portion of the United States*. And yet such stigmata of rickets as *genu varum* and the quadratic head are plain evidence that rickets does occur under these conditions.

How much more likely, then, that rickets will develop among city-bred children who live under a smokepall for a large part of each year. True, vitamin D is more or less routinely prescribed nowadays for infants. But is the antiricketic routinely administered in the home? Does the child refuse it? Is it given in some unstandardized form, purchased from a false sense of economy because the physician did not specify the kind?

A uniformly potent source of vitamin D such as Oleum Percomorphum, administered regularly in proper dosage, can do more than protect against the gross visible deformities of rickets. It may prevent hidden but nonetheless serious malformations of the chest and the pelvis and will aid in promoting good dentition. Because the dosage is measured in *drops*, Oleum Percomorphum is well taken and well tolerated by infants and growing children.

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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

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THE NATIONAL FOUNDATION AND THE SCHOOLS FIGHT POLIO

CLAIR E. TURNER, Ed M., D.Sc., Dr. P.H.
National Foundation for Infantile Paralysis

School health workers, administrators, and teachers are concerned with the epidemic, treatment, and educational aspects of infantile paralysis. You may like to have at hand a statement of what assistance is available through the local chapters of The National Foundation for Infantile Paralysis. The following statement presents, in parallel columns, the usual school activities and the co-operative activities of the National Foundation in the fight against this disease.

Epidemic Control is of vital importance to every family in the community.

The Schools,	The Foundation
in cooperation with health authorities, are alert to find and isolate cases. They teach known precautions. They cooperate in advance community planning for epidemic control. School physicians, nurses and teachers know of the availability of epidemic aid.	mobilizes personnel and equipment for epidemic areas and supplies necessary financial and service resources. It supplies printed lists of precautions for pupils; organizes training locally for Polio Emergency Volunteers; trains experts; and supports research.

Early Medical Care minimizes the danger of paralysis while continued activity, especially when accompanied by fatigue and chilling, increases this danger.

The Schools	The Foundation,
teach older pupils the early symtoms and the need for prompt care. Teachers see that the pupils with symptoms which might indicate "polio" are taken out of activity and put under the care of the family physician. School physicians and nursing staffs are informed of the availability of consulting diagnosticians.	through its chapters, makes the best medical treatment available immediately to any family in need of financial assistance by paying for physician, hospitalization, transportation and other treatment costs. It has provided millions of pieces of educational material teaching symptoms and what to do. It makes available the diagnostic services of specialists.

Adequate Treatment for this disease is often extremely expensive and may be unavailable in rural areas, yet special treatment involving the use of a respirator or the later use of orthopedic

surgery may be necessary to save a life or prevent permanent crippling.

The Schools
inform older students as well as their health and teaching staffs, and they help to inform the community that every needed treatment will be supplied by the local chapter of the Foundation. Over 75% of all cases are school or preschool children. In 1946 there were some 18,000 cases in this age group. The cost of adequate treatment in severe cases would be financially crippling to the average family and restrict the later educational opportunities of all the children in the family.

The Foundation,
through its chapters, provides hospitalization and pays for treatment until normal functioning is restored or until every beneficial therapy has been used. It provides iron lungs and orthopedic appliances where needed. Although over $8,000,000 were left in the local chapters from the 1946 March of Dimes the National headquarters had to advance to the chapters over $5,400,000 during 1946 to provide needed care. Without this outlay the economic security of families would have been destroyed and the educational opportunities of children limited.

Post Treatment Education is particularly important to the child who has had a severe case of "polio". There has been no impairment of his mental capacity but crippling may have closed many common occupations to him. He comes back to school following a severe emotional experience in addition to his physical suffering.

The Schools
adjust the child's program to his physical capacity and his future needs. They help him to think of himself as a normal individual possessed of courage and not self-pity. They help adjust other children to the crippled child.

The Foundation,
through the treatment the chapter has made possible, provides information with regard to the child's capacity and possibilities and continues treatment after he has returned to school when such further treatment is required.

Training For School Personnel is always needed to meet the school's desire for the highest quality of leadership.

The Schools
in many states, cities and counties have benefited from the services of health educators, physicians, nurses and physical therapists who have been trained through fellowship funds.

The Foundation,
provides fellowships for health educators, nurses, physical therapists and other specialists who serve infantile paralysis patients and the public health.

Health Education is a fundamental part of general education and of health promotion.

The Schools
organize a sound graded program of health education concerning communicable diseases and other public health problems, including suitable instruction on infantile paralysis.

The Foundation,
at the request of the schools, provides health education material which will fit into existing curricula and aid teachers in giving "polio" its proper place.

New Knowledge is needed for the prevention, control and cure of this disease.

The Schools
of medicine, the schools of public health and the universities, under Foundation grants, are carrying on one of the greatest programs of research ever directed against a disease. The public schools get and use new facts as they are developed.

The Foundation
finances research as well as treatment. Under the guidance of eminent medical advisory committees it makes research grants to institutions with outstanding facilities for the study of "polio". This research will eventually find a way to wipe out the disease.

Education in Problem Solving by the Democratic Process is a basic objective of American education. Schools believe in teaching responsibility for the less fortunate without prejudice as to race, color or creed. Schools believe in intelligent citizen action through democratic organization in studying and solving the problems which confront us. Schools believe in training youth to give of its resources and efforts for the protection, safety and wellbeing of others. Infantile paralysis is mainly a disease of school and preschool children. It touches the interest and sympathies of school children more, perhaps, than any other disease.

The Schools
provide an opportunity for children to understand the needs of those who have "polio" and an opportunity for them to make the gift they would like toward the care of the unfortunate and the wiping out of the disease, with a feeling of safety provided by their dimes, with some understanding of the democratic process in which they are participating and with the satisfaction of having met a citizen's responsibilities.

The Foundation
provides the medium through which the American people can fight "polio" in all its aspects by means of their dimes. It works with school systems through approved channels and facilitates school participation on a basis which is educational and satisfying to the child but not burdensome to school administrators. It operates the March of Dimes campaign through the volunteer efforts of leading citizens in the cities, towns and counties of the nation.

* * * * *

The School Children of Copenhagen During the War,— In October 1941 the senior school medical officer of Copenhagen, Dr. G. Jorgenson, sounded a note of warning about the health of school children under war conditions in Copenhagen. Measures were accordingly taken to counteract these conditions as much as possible, and from the beginning of 1943 a special ration of cod liver oil was issued, with the result that 87 percent of the school children examined received some cod liver oil every day. At the same time an educational campaign for the better utilization of available food was conducted vigorously. A recent postwar survey of the health of the school children in Copenhagen by Dr. Knud Bojlen makes good reading; there has been no material deterioration in general health, and that telltale public health index, the tuberlin test, shows that the percentage of positive reactors declined steadily throughout the war. Journ. A.M.A., June 7, 1947, p. 554.

AS THE NURSE MEETS THE PROBLEM*

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In 1942, three hundred superintendents of school answered a questionnaire of the American School Health Association and stated their reasons why they employed nurses on their school staffs. The special significance of these answers lies in a rough evaluation of lay administrators of a nursing program. Their reasons for employing nurses ran like this: 160 superintendents said in one way or another they wanted a nurse for health promotion, 130 for communicable disease control, home visiting 123, health inspection 121, first aid 89, health teaching in the classroom 31, and truancy work thirty.

These reasons, when examined carefully, would seem to constitute the wide basic program of the usual school nursing service, open of course, to rather wide interpretations and emphasis. This is especially true of the term "health promotion" and in this, all persons concerned with the child must be a part. It is in this phase of the nurses work where rapport, confidence and directional ability count most. Through health promotion, those health attitudes which ultimately result in good health behavior are produced.

The National Organization for Public Health Nursing has set the standard of the nurses pupil load at 1,500 children in elementary schools and around 2,000 to 2,500 at the high school level. This, of course, is for the full time specialized school nurse. The speaker recently had a letter from a director of school health in California deploring the emphasis on a pupil load so great as this. He feels that the nurses do better with a much lighter assignment. How then does a nurse, with wide variations in pupil load and special demands, fit effectively into a school program?

At the New York State Association of Elementary Principals in Syracuse last winter Dr. Elsbree of Teachers College Columbia, in his address on "Promotion Policies in the Elementary Schools" suggested six aims for education. In all six, if we were to realize the full implications, the health program would be a basic corner stone to the execution of each objective. Suppose we look at each of the stated objectives and see if we can frame a philosophy for a school nursing within the structure of these objectives. Such a

*Presented at the New England Health Institute, at the University of New Hampshire, Durham, N. H., June 17, 1947.

philosophy is badly needed by nurses who have a hard time finding inspiration to carry them through their daily tasks with zest and efficiency. The first of Dr. Elsbree's objectives is:

1. To Understand and Practice Desirable Social Relationships

Any nurse who has been out in a geographic district of a given school cannot help but realize the difficulties children have in understanding and practicing desirable social relationships. Broken homes, varied social standards, ill parents, and wide discrepancies in income which permits one child unlimited social opportunities and another almost none, are but a few of the areas in which the nurse must have deep and sympathetic understandings if she hopes to accomplish much in health improvement. To be socially approved by his companions a child must have certain physical standards of cleanliness, adequate clothing, and health care. If any of these vary greatly from the accepted group pattern school nurses are usually expected to help remedy the situation. If a child is held up to ridicule or ostracized by his companions because he has head lice or his body odor is disagreeable, or even if his hair is too red, he may develop certain anti-social characteristics in his attempt to adjust to his situation. Since one of the basic social drives is social acceptance, the health department has much to contribute to children in helping them become socially acceptable to the group pattern. While there should be effort made by the health department and its members to improve the total group pattern, for the development of the best in mental hygiene, individuals should not be singled out to be conspicuously better or worse than the community in which they live. To be well balanced they need to be among the better of the community but not conspicuously above the others.

2. To Discover and Develop Desirable Individual Aptitudes

In this second objective as given by Dr. Elsbree the health department has a special stake. Individual aptitudes are heavily based upon psychological and physical endowments. The post-polio, with marked residual leg involvement, cannot hope to earn his living or secure, to any great extent, his recreation by competitive athletics which require unusual leg strength. No more should a child with a severe heart involvment anticipate earning his living by strenuous manual pursuits. Eye defects, hearing defects, tubercular infections and many other handicaps which the school health department aims to prevent, or secure treatment for when not prevented, are important to the guidance program which seeks to discover and meet individual aptitudes. Such information and recommendations are the health department's special contributions to the

cumulative school progress record. The recommendations which nurses and physicians make to the guidance department should permit the handicapped child to accept his problem, to not be babied, and to use all of his powers to the maximum of his ability. One crippled junior high school child quit school and is well on the way to becoming a town bum because he has not been allowed to participate in gymnasium activities. In this someone has been careless in helping the child to find acceptable personal substitutes to compensate for the unusual drive for physical power. In such cases the health department members must have an awareness of what over protection may mean to a child's state of mental health.

3. To Cultivate the Habit of Critical Thinking

Perhaps in no area is critical thinking, and the proper criteria for it, more needed than in the field of health. With the radio blaring forth quick cures for headaches, fatigue and a hundred more human ailments, hygiene instruction in schools is faced with keen competition. The advertisers have something to sell so they dress it up in the most interesting manner and if necessary skirt full truths to put their product across. The nurse, going to the home to advise with a parent about some phase of child care, makes a Socratic approach and inquires about what is being done, only to find, that alka-seltzer or milk of magnesia is the stock treatment of the household for most of their health problems. Does the nurse have the techniques to sell a more critical attitude to the parent, for the child's care, than they now possess? Does the nurse, herself, possess techniques of critical thinking in relation to her own biases in health matters? In one city a hygiene class of high school students wanted to know why tobacco is considered so harmful by the health teachers and nurses when, quote, "More doctors named Camels than any other brand of cigarettes," or "Reach for a Lucky instead of a sweet." Teachers do not always know how to answer these types of questions and naturally seek the answers from some specialist in whom they have confidence. The habit of critical thinking is health's greatest safeguard.

4. To Appreciate and Desire Worthwhile Activities

Young children like activity and usually appreciate adult companionship and guidance in carrying forth their projects. When adolescence is reached, unless carefully guided, attitudes toward activity and adult guidance may take a complete somersault. Girls who have enjoyed participating in physical activity may withdraw, seek gymnasium excuses and avoid adult companionship. Boys may desire activity beyond their capacity or the opposite, may become

surly or for the first time show aggressive tendencies which, according to the guidance given, may be directed into positive or negative leadership qualities. The handicapped child, if he is to develop a well balanced personality must have clear and forceful guidance. His parents must be taught to understand the limitations placed upon their child and their special contribution to his activity adjustments. The responsibility for this education of both child and parent all too often falls upon the school nurse. Not long ago the author was in contact with a resentful ten-year-old boy. The basis for his resentment did not lie within the child himself but because he did not realize why his blind six-year-old sister was sent away from home to the school for the blind. The lad was sure he could give his sister the care and guidance she needed. The school nurse, the pupil adjustment department worker and the parents, when the problems were all ferreted out, were able to help the child to a more normal attitude toward society and to see that he had some developing to do before he could adequately care for his sister. He needed to know that he should first learn to work and play and be a very normal person himself. His very attitude toward life and the things he does will affect his relationships with the sister he longs to have with him.

5. To Give Command of the Common Integrating Skills

It is for this area that most of us in the health field bend our efforts. We believe that for a child to read he must have normal vision and hearing. That is true, so we work on that. To learn the skills, the child should be in school a reasonable part of the time, so we work on the objectives of health protection and health inspections. In fact too many members of school health departments think of the school education program in this rather narrow category. They often miss the idea that school health departments have a great opportunity to help in the development of the fine human potentialities of the individual beyond just skill in reading, writing, and arithmetic. Herein lies the purpose of discussing these first four educational objectives as given this morning.

The routine of school health procedures include record-keeping, tests and measurements, follow-up of absenteeism, special counselling when things have gone wrong, seeking out unwholesome building conditions, talks to parent groups, each in itself important for some reason. It is the reason for each activity which is often so poorly defined. Health for health's sake is not enough. When we get bored with our routine we need to stop and ask ourselves why we have become so involved. If there is not a really

important reason for our involvement we need to disentangle ourselves and start down a road toward something which has important implications for the youngsters for whom we are working. I do not mean to infer that certain routines are unnecessary, or records are not needed nor that all we do will be thrilling. Quite the contrary; but our mental attitudes will improve when we feel the reasons back of our work.

6. To Develop a Sound Body and Normal Mental Attitudes

Health has long been recognized by educational theorists as a cardinal principle of education and in almost any volume written on school health the teacher is rated as the "key person" in the school health program. This is a logical premise since the teacher is in constant contact with those she teaches. The unit of mind and body is the machine with which the child is expected to do his work. Any defect in this machine is sure to hamper to a greater or lesser degree the work the child is able to do. How then can anyone *but* the teacher be the "key person" responsible for knowing whether the machines of her pupils are in good order?

Accepting this as correct thinking one may well ask why so little emphasis in teacher education has been given to the preparation of the teacher for those health responsibilities of an educational program? Not only has the usual classroom teacher been poorly prepared, but the average school administrator has had even less preparation. Thus, public health experts have set up standards and goals for school health only to have their standards ignored by many school systems or turned over by others, to specially prepared health personnel. The specialist then often struggles endlessly to gain the cooperation and assistance of those unprepared "key people" who lack insights and appreciations for making the school health program really functional. Can the nurse help to improve this situation?

Probably no other health person in a school can get closer to the teachers, parents and children than an intelligent, well prepared nurse serving the school. The time the nurse spends in preparing herself for her work is quite comparable to the time a teacher spends on her preparation, thus putting the two on a similar professional plane, which fact helps to establish rapport, with neither person needing to feel superior or inferior to the other.

Another common plane upon which teachers and nurses meet is the interest, human-beings have in discussing their own states of well being or ill health. If the nurse with tact and intelligence contributes during the discussion to a more positive type of think-

ing on the part of the teachers toward their own health problems, she then can move easily to problems involving children for whom the nurse and teacher are jointly responsible. There are those who are apt to feel that the time the nurse spends before or after school just establishing a friendly relationship with her co-workers is time wasted. This brief I do not accept if the nurse is able to keep herself above engaging in tirades of petty griefs and gripes but rather expends great effort and thought in learning about her fellow workers. She needs to know what teachers need in health helps, how they feel about teaching as a profession, whether they are easy to work with and many other things which are learned only by becoming acquainted under friendly, informal conditions. Once the nurse has been accepted by the teachers as a good fellow, who knows her work and is sympathetic and approachable, the execution of almost any procedure is an assured success.

If I were not afraid of having a health program entirely overlooked by school administrators, I believe I would not include health as a separate objective of education. I would have health education listed in the curriculum just as any other subject and have adequate provision made for excellent health instruction at all age levels. In my Utopia the rest of the health program as such, would be so important to all educational objectives that it could not help but be included.

We would still need health specialists in the schools to work with individual children, and those responsible for them, to assist in determining their special health needs. From the broad standpoint of well adjusted personalities and vigorous bodies, as the outgrowth of our great public school system, health programs would be taken for granted.

* * * * *

Superior Council of Physical Education and Sports,—Prof. Dr. Vanderwael (Belgium) believes that the development of sports in Belgium merits the attention of the public authorities. Under governmental direction physicians licensed in physical education should control the physical activities of all the school population, of adolescents and of adults. He thinks that the practice of physical education in schools according to a program and generally adopted directives would lead to fewer excesses in sports among young people. Youth likes to spend its energies, and it is necessary to give it an opportunity to prepare itself by gymnastics and to develop itself by sports and games. With proper control there will be less regrettable adventures. He favors the extension of medical inspection to all, and hopes for the full time employment of physicians. **Journal** A.M.A. Belgium letter, Sept. 20, 1947, p. 178.

THE DEVELOPMENT OF A NEW TEST IN HEALTH EDUCATION

JOHN H. SHAW, Ed.D. and MAURICE E. TROYER, Ph.D.
Syracuse University

The purpose of this article is to explain the process of the construction and the uses of a new health education test.*

The tremendous impetus given health teaching by the war accentuated the need for means of evaluating such efforts and stimulated the construction of the instrument.

Construction of the Tests

The authors decided at the beginning that this test should reveal more than knowledge of fact and principle of healthful living. We wanted a test that would indicate to what extent students could use what they knew in coming to sound conclusions when they are confronted with health problems. We also wanted a test that would show what was happening to students interests and attitudes in those areas that involve healthful living. It became apparent before the test was in experimental form that not all of these objectives could be covered in a single test. We, therefore, limited the test to two major objectives: knowledge of fact and principle in health education, and applications of health and principle.

A test of attitude and interest in this field should be the next step, for we know that students tend to work toward those objectives that are covered by the testing.

Following a careful analysis of health syllabi, textbooks, reports, and bulletins, it was decided that the test should sample the following topics: health status; personal appearance; foods and nutrition; play and recreation; dental health; care of the special senses; temperance; mental health; social health; heating, lighting, and ventilation; child care; home care of the sick; community health protection; disease prevention and control; safety, and first aid. Obviously because of inter-relationships between many of the topics many test items contain significant applications to two or more of the areas.

The test was designed for pupils in the secondary school from

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*"*Health Education Test:* Knowledge and Application". Acorn Publishing Company, Rockville Centre, L. I., N. Y. John H. Shaw, Chairman, Teacher Training, Department of Athletics and Physical Education, Syracuse University. Maurice E. Troyer, Chairman, Evaluation Service Center, Syracuse University. Edited by Clifford L. Brownell, Chairman, Health and Physical Education, Teachers College, Columbia University.

grade 7 through grade 12 and for students in first-year college hygiene courses. Forms A and B have been developed.*

It was decided that each test should include sixty multiple choice questions of the best answer type and testing knowledge primarily and four problem situations with ten true-false items each calling for use of health knowledge. The best answer form of multiple choice questions was chosen because it made possible greater evidence of discrimination in choice and provided for greater range of difficulty than the traditional multiple choice question.

The four problem areas and accompanying true-false questions in each form were nutrition, mental health, health in the home (including child care and home care of the sick), and safety and first aid.

Each form of the test was tried out in experimental form in actual school situations with many more questions included than the one hundred for the final form to allow for elimination of poor questions. Those finally selected ranged in difficulty from ten to ninety per cent and differentiated clearly between "high" and "low serving" students.

The second revision of each form was further checked and approved by submitting it to experts in nutrition, public health, and medicine; and to teachers of health, biology, and physical education. Both the original experimental form and the second revision were reviewed by the editor and publisher.

The final printed Form A has been tried out in actual school situations on a broad basis and National Norms are available. A similar process will be followed with Form B on its publication.

Each Form of the test requires forty-five minutes for administration. Keys provide the following information: (1) total overall score (2) general knowledge score (3) application of knowledge score. In addition four sub-scores measuring knowledge in particular areas of subject matter may be computed if desired (nutrition, mental health, health in home, school and community and safety and first aid). Specific strengths and weaknesses in topical areas may be located by the use of these sub-measures.

It is believed that the thorough analysis of printed materials for selection of test items and the further careful check and approval by experts has insured validity of the tests. Reliability coefficients between the experimental forms were .90 and .91 as determined by the split-halves method.

*Form A is now available in print; Form B is in the process of printing.

Uses of the Test

Pre-testing. Either form of the test may be administered at the beginning of the course in a given grade to determine individual or group abilities or weaknesses in health knowledge or application. By using the sub-scores, strengths and weaknesses among pupils in certain areas of health may be discovered. Specific analysis of individual test items will identify concepts deserving special teaching emphases.

Post-testing. The alternate form of the test administered near the completion of the course, reveals comparative information relating to individual or group progress.

Improvement of Construction. Systematic and accurate measurement of student progress enables the instructor to evaluate teaching techniques, and provides a sound basis for needed revision in methods and materials. For example, improvement in performance on knowledge (items 1 to 60) without a corresponding improvement on application (items 61 to 100) would suggest the need for greater teaching emphasis in the utilization of information already acquired.

The return of test papers to students for class discussion represents a desirable teaching technique, frequently ignored in many schools. This procedure may be followed profitably with both pre-testing and post-testing.

Motivation. Frequently students become motivated by the test results. This test provides motivation for both factual and functional learning. Further, the stimulation aroused by comparing individual pupil achievement with group progress or norms may aid the teacher in the accomplishment of his avowed purposes. Failure of a group to approximate established norms may be used as a community inducement to increase the time allotment for health instruction, or to improve the health equipment in the form of text books, supplementary materials, and training aids. Conversely, group scores approximating or exceeding the norms may indicate a task well done.

Individuals who have tried out the test state that one of its greatest strengths lies in the discussion it provokes. Several teachers working with graduate students in health education have indicated that it is valuable even on that level due to its relative difficult and thought provoking nature.

Research. Effectiveness of different teaching techniques may be compared through controlled experiments, wherein standardized tests are used to evaluate the results obtained.

It is the feeling of the authors that although the test purports only to measure knowledge and its application, that attitudes and appreciations are to a considerable extent indicated by responses to many questions. Student correction, or at least the opportunity to see the test and analyze it after it has been corrected, is of utmost importance if maximum learning is to be forthcoming from the experience.

* * * * *

New England Health Institute,—On June 16th, 17th, and 18th the New England Health Institute was held at the University of New Hampshire in Durham, New Hampshire. The program consisted of two and a half full days of especially worthwhile material. Some of the most prominent figures in the field of public health participated in the program. It was divided up into about eight or nine sections which included Maternal and Child Health, Geriatrics, Public Health Administration, School Health and Health Education, Welfare Problems, Industrial Health, Vital Statistics, Communicable Diseases, Laboratories, and Tuberclosis Control. Other closely related subjects, such as Dentistry, were integrated into each of the sections wherever possible.

The official banquet featured a talk and demonstration by Mrs. Evelyn Peaslee, noted finger-paint artist, on finger-painting as a measure of occupational therapy and possible aid to diagnosis of psychopathic cases.

As far as we know, it was the highest attendance record of any meeting of the New England Health Institute. There was a total paid attendance of eight hundred and sixteen plus at least three to four hundred guests, thus giving us a total of well over a thousand. Fifteen different states were represented as well as a couple of guests from Great Britain. As the meeting was held on the college campus of the University of New Hampshire, there were few distracting attractions such as shopping trips in a big city, and so we feel it was all the more remarkable to have this high attendance.

From the point of view of both quality and diversity of program as well as numbers attending, the Institute was highly successful. The comment was made by several of those attending that it went byond the bounds of regional conclaves and was national in quality and scope.

The date and place of next year's Institute will be decided at the Conference of State and Territorial Health Officers, but wherever it is, it is hoped that attendance will be as good. **H. Shirley Dwyer, D.D.S., Director of Publicity.**

RHEUMATIC FEVER*

WILBUR A. BECKETT, M.D.
Heart Board Physician

Rheumatic fever is a serious disease. How serious? In answer compare it with the worst children's disease that comes to your mind—infantile paralysis. Last year poliomyelitis occurred as an epidemic with over 23,000 patients. Rheumatic fever does not occur in such epidemic form, but every year there are 200,000 to 260,000 new cases. At all times there are between 800,000 and 1,000,000 persons suffering from the disease. In 1940, an average year, 367 died of polio. Thirty to sixty thousand die each year because of the rheumatic state.

Polio is an acute virus disease which is mild and of short duration in most of the patients. In a small percentage paralysis of various groups of muscles may occur in varying degrees. At the end of two years, if crippling has occurred, one can be certain no further crippling will take place. The patient will be immune to further attacks.

Rheumatic fever is more insidious, more chronic, and more destructive than infantile paralysis. Though both diseases predominantly affect children in the same age group, about 5-10 years, twenty per cent of rheumatic children will have died by the eleventh year after onset of the disease. Many of those who survive will have been badly crippled. But we do not see this crippling because it is well hidden. The heart almost always is affected, though clinical signs may be absent. Fortunately, many of these children recover, apparently without permanent heart damage.

The cause of rheumatic fever is still unknown. Nevertheless it is associated closely with certain groups of hemolytic (blood-cell dissolving) streptococci. The first attack and subsequent flare-ups of rheumatic fever usually follow by a few days or weeks an acute sore throat or upper respiratory infection caused by these microbes. Some researchers think rheumatic fever may be an allergic reaction to the bacteria.

How do so many avoid rheumatic fever since almost everyone has colds and sore throats? Probably because a majority have natural or acquired resistance to the infective agents. Intensive studies have shown that about 50 per cent of the patients have relatives with a history of the disease. It is most commonly found

*Reprinted from the *Health Education Journal*, Los Angeles City Schools, April 1947.

among the urban poor—those living in crowded, damp, and insanitary houses. It is rarer among the better-to-do. The Negro and the Mexican are more susceptible to attacks than Caucasian races.

Rheumatic fever has been defined as a chronic generalized disease affecting many tissues and organs and often damaging the heart permanently. As its course varies greatly in different individuals it is one of the most difficult of all diseases to diagnose. Much skill and time—days, even weeks or months, may be needed for a doctor to determine whether or not a child has rheumatic fever. Dr. Coburn, one of the foremost students of the disease, felt because of this that the name rheumatic fever and rheumatic heart disease should be discontinued in favor of the term "rheumatic state," to include that great mosaic of disease manifestations which in the past have been described under the title of "acute rheumatic fever."

Occasionally an acute attack will announce itself as a full-blown acute rheumatic fever—easy to diagnose. But most often it is an insidious infection with symptoms individual to the child it is attacking. A child, especially one who has had attacks of rheumatic fever or frequent respiratory infections, should be suspected of having an acute or subacute attack of rheumatic fever if it tires easily, is continuously restless, or is not interested in the things that formerly engaged it. An inability to gain weight, a sallow washed-out complexion or a lack of appetite should suggest careful observation by a doctor. Such things as aching arms, or especially legs, frequent nose-bleeding, or feverishness may be brought to your attention. These are only a few of the symptoms one may expect in rheumatic fever. They are all common to many other diseases.

If a child, especially a rheumatic one, is noticed to be below par in any way while in school, the parents should be told of its condition and urged to have the advice of a physician. Here is needed the combined help of the school staff, the teachers, the social service worker, and the school doctor and nurse, for it is important to know whether or not the child is acutely ill.

A doctor, and preferably hospitalization, is required during the acute attack. This period lasts from a week to a month or so. The convalescence that follows is usually a long tedious stage of 6 months to a year or two. This time should be spent in a sanatorium devoted to the care of rheumatic fever children. Home care for many reasons is usually unsatisfactory. Rheumatic children in Los Angeles are most unfortunate, for here there is no such institution.

This is really the last great populated area that does not care for its cardiac convalescents, there being facilities for only the acutely ill and custodial care for chronic cases.

When a child is returned to school he is supposed to be in the inactive stage of his disease and to be strong enough to do the regular school work. But because of the lack of the convalescent care he returns to school usually within a month or six weeks after the acute illness—long before he should. For this reason he should be watched closely to determine his reactions—whether he is gaining or losing weight, tires easily, or is subject to colds and sore throats. Protection against upper respiratory infections should come first in caring for these children. If they catch cold they should be sent home with instructions to remain in bed until free of fever. Their activities should be limited to the extent of their tolerance and should be gradually increased.

Because Los Angeles has such inadequate convalescent care for rheumatics the school must take on some of the duties of a sanatarium. One of these duties is to teach the crippled child to have a normal outlook. This is a tough job even for those who have been trained for it. It is possible, however, not to draw attention to the fact that the child is sick. He should not be allowed to use his handicap as an excuse for avoiding things distasteful to him. He must not be allowed to become a cardiac neurotic.

The "rheumatic state" is a public health problem of major importance. The fact that 1 percent of our wage earners are so handicapped by rheumatic fever that they cannot do normal work is in itself enough to make it our number one problem. Public education concerning prevention of this crippling infection and adequate care and education of cardiacs are urgently needed. School people can be of tremendous help to each rheumatic child and to our fellow citizens in furthering this education.

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EDITORIAL

Simplifying Nursing Education: There is no doubt about it—a shortage of nurses exists everywhere, along with a shortage of teachers, social workers and medical persons. In seeking a reason for these shortages in the fields of public service probably many could be found. Small incomes, hard work, lack of social acceptance are some of the reasons, but as such do not solve the problem.

The field in which I am mainly interested is nursing, and for some time I have felt that excellent bedside nursing care is obtainable without exploiting the student nurse. Nursing schools could enroll capable high school graduates for any of three levels of preparation—each nurse taking each step and stopping at any level of her interest or capability. The "core curriculum" of the first year would center around nursing arts in which the basic techniques of good nursing care would be stressed along with the study of nutrition and nursing ethics. Any girl wishing to devote her life or a period of her life to bedside care of the sick might drop out at the end of this first year and work under supervision at her chosen level of service. These girls would provide a large share of our hospital nursing and care of chronics in their homes. Other girls might go on for another year in which they would take the basic sciences, the nursing arts which demand unusual skill and the social sciences necessary to the assumption of special responsibilities as graduate registered nurses. For the specialties in nursing,

such as public health, nursing education, supervision and administration, the nurse would go on to college for as much additional preparation as is necessary.

The basis for continuation at any level would be not only the mental ability necessary, but a genuine interest and skill in the giving of nursing care to the ill. Any nurse who stops at the first level should be permitted to re-enter her nursing school for further training any time within five years if she has the ability and recommendations of her supervisory staff, rating her as a good, interested nurse who can give superior care to ill persons and who knows how to help families meet their problems.

Maybe I am wrong in the assumption that nursing may be done on special levels without snobbery or intellectual superiority complexes which we now seem to have. But of one thing I am sure, we have a sorry state of nursing affairs today and the patient is getting the short end of the deal.—*G. E. C.*

ABSTRACTS AND NOTES

"The Educated Person understands the basic facts concerning health and disease, protects his own health and that of his dependents, works to improve the health of the community." The Purposes of Education in American Democracy: Educational Policies Commission.

* * * * *

Whom Shall I Consult About My Eyes? By F. J. Jung, M.D.,— Many different things can go wrong with the human eye, and not all of them are equally serious. There are various professional groups equipped to solve various problems regarding eyesight,—groups differing in training and viewpoint. It is often important to know what these differences are. This article will state briefly the work, training, and limitations of three professional groups, namely, (1) ophthalmologist, (2) the optometrist, and (3) the optician.

The most responsible work is that of the **ophthalmologist.** He is also known to the public as the oculist or eye-specialist, and the reason why his responsibilities are so great is that he is often relied upon to use his skill in cases where mistakes, neglect, or awkwardness might result in the total loss of an eye. He is a man who has taken a complete medical course, has been graduated with the degree of Doctor of Medicine, is licensed to practice as physician and surgeon in his state, and is competent to diagnose all known diseases of the eye.

By disease is meant any departure from the normal or healthy state. Some departures from health or normalcy will be only refrac-

tive; that is, they will be related simply to the lens-system of the eye. But other departures will be developmental, or traumatic, or inflammatory. Examples of development defects are the blindness associated with mongolism and the jerky movements (nystagmus) of the eyes of some albinos. An example of traumatic disease is the glaucoma which, in the case of a gardener, followed an injury to the eye; he was struck in the face by a thorny branch which punctured the eyeball and dislocated the lens. An example of inflammatory disease is the conjunctivitis (pink-eye) which sometimes breaks out in schools.

An ophthalmologist must also be able to tell when failing eyesight is due to poisons like methyl alcohol, to infections like syphilis, or to metabolic disease like nephritis (kidney-disease). He must not only be able to use powerful drugs like atropine and cocaine, but must also be adept at very delicate surgery like that required for the cataract operation.

By contrast with the above, the responsibilities of the **optometrist** are much more modest. He does not attempt to diagnose diseases like nephritis, or to operate surgically for conditions like cataract, or to treat infections like syphilitic iritis. "An optometrist is one who is skilled in or practices optometry. That is, he employs subjective and objective mechanical means to determine the accommodative and refractive states of the eye and the scope of its functions in general; or, he employs any means, other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof."

The optometrist is trained to detect such conditions as myopia and astigmatism, to determine their severity as far as is possible without the use of drugs, and to fit glasses in many cases when the only trouble is some peculiarity in the lens-system of the patient's eye. By supplying well-fitting glasses he is commonly able to correct poor eyesight due to excessive or insufficient refraction (lens power) in an otherwise normal eye.

To merit the title of "optometrist" a student must complete a course in a school of optometry. He may then take an examination and receive a license to practice in his state, but this is not the case in all states.

The third professional group to be mentioned here is that of the optician. "An optician is one skilled in optics, that branch of physical science which treats of the nature and properties of light, the laws of its modification by opaque and transparent bodies, and the phenomena of vision. Again, he is one who deals in optical glasses and instruments." (Webster)

Optics is a science, a branch of physics involving higher mathematics; it is also an art, an intricate body of techniques for measuring, grinding and mounting lenses, prisms and mirrors. Thus the optician may deal with many other things than the human eye; he may devote his life to making telescopes, microscopes, polarimeters, or spectrophotometers. This is evidently not the same thing as studying the diseases of the human eye or the diseases of the human body that affect the eye.

To merit the title of "optician" a student will generally complete a university course majoring in physics and will thereafter engage in teaching, research, or industrial work on optics. He may qualify for membership in professional societies, but there are no legal requirements, and he need not secure a state license in order to carry on his work.

It is evident that each of these three professional groups has special fields of activity, uses particular types of equipment, and has certain limitations. The ophthalmologist does not build telescopes, the optician is not interested in the tear-glands, and the optometrist does not treat retinal hemorrhages. The optometrist can help you to see better if there is no deep lying disease or serious structural injury responsible for the impairment of vision. But if there is any reason to suppose that there is something seriously wrong, or that failing eyesight is related to disease in other parts of the body, clearly the training, experience, and equipment of the ophthalmologist render him best fitted to deal with your problem. Adopted by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.

* * * * *

Public Health Aspects of the Treatment of Tinea Capitis,— There is an epidemic of tinea capitis in the United States. It was first brought to the attention of the U. S. Public Health Service about four years ago by reports from New York, Philadelphia, and Pittsburgh, but it has now spread to practically all parts of the country.

The city of Hagerstown, Maryland, in 1944 requested the assistance of the Public Health Service in controlling an epidemic which was present there. Hagerstown has a population of about 40,000. There were about 7,000 children in the grade schools and examination of them with the Wood's light revealed about 600 cases of tinea capitis. Microscopic and cultural examinations showed that 98 per cent of the cases were caused by microsporon audouini.

Careful examinations and investigations showed that barber shops were the principal sources for spreading the infection and

that the electric clippers were mostly responsible. Proofs of this were the finding of infected hairs in the clippers; the fact that there were six times as many boys infected as girls; that all the boys had infection in the clipper areas of the scalp; that 65 per cent of the affected boys had the infection only in the clipper areas and that most of the girls were affected only in the hair parts. Other lesser sources of infection were found to be common combs and brushes in the homes, the custom of exchanging caps in the schools, and the plush and mohair backs of motion picture seats.

It was found that immersing the clippers in mineral oil having a boiling point of 200 C., kept at a constant temperature of 100 C. would sterilize them in one minute. The same result could be obtained by immersing the clippers in 2 per cent of boiling lysol for three minutes or in 10 per cent cold lysol for fifteen minutes.

Since the disease is spread by means of transference of infected hairs, it was agreed that exclusion of children from school was of little value if they could mingle outside of school. Moreover, the schools were the most convenient places for establishing treatment centers, because the children were there five days a week and lost but little time from classes while being treated. Infected children of preschool age also could be brought more conveniently by the mother to the local school for treatment. Therefore, it was decided to permit infected children to go to school and be treated there.

The barbers agreed not to cut the hair of infected children, but to send them to the treatment centers where the hair was closely clipped every ten days and where medicaments were applied by trained personnel every school day.

The doctors agreed to send all infected cases to the treatment centers. The parents were instructed to shampoo the heads of infected children in the morning before coming to school, to supply the infected children with individual combs, brushes, and towels and with clean, close-fitting caps which were to be boiled daily. They were also instructed that the heads of non-infected children were to be shampooed immediately after receiving a hair cut in the barber shops. These measures served to control the spread of the disease so that upon subsequent re-examination of the schools six months after the first examination only 26 new cases were found, and one year after only 12 new cases were found. Half of these cases had not been examined before, because they had been of preschool age or had moved in from other localities.

It is agreed that the most efficient method of treating cases of tinea capitis is to epilate the scalp, following this with the applica-

tion of fungicides. Epilation serves to empty the follicles of infected hairs, thus more easily permitting the entrance of fungicides to kill the fungi remaining in the follicles. Epilation without subsequent treatment by topical application of fungicides usually results in the infection of the new hairs. X-rays in epilation doses do not kill the fungi. Epilation may be done manually by pulling out the infected hairs, by exposure to X-rays as originated by Sabouraud, and by the oral administration of one dose of thallium acetate, 7 mg. per kilo of body weight. Public Health Aspects of the Treatment of Tinea Capitis, by Louis Schwartz, M.D. From New York State Journal of Medicine, August 15, 1947, page 1782. Abstracted by C. H. K.

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Our Waning Intelligence,—At the moment, three publications lie at hand. The *Lancet*, London, of August 10, 1946; *Human Fertility*, Vol. II, No. 2, June, 1946; and *The Survival of the Unfittest, Birthright, Inc.*, Princeton, New Jersey. All three publications above cited exude gloom. The *Lancet* says, in part:

In a survey of the results of intelligence tests in a group of nearly 3,000 school children, Thompson and Sutherland found that there was a negative correlation ($r=0.25$) between intelligence quotient and size of family. This means that, in 60% of the families studied, smallness of family was associated with mental ability above the average. There is a consistent trend from the 66% above-average intellects in only children to the 37% above-average intelligence-test results in families of over seven. That this was not wholly due to differences in home environment was shown by subsequent demonstration of a similar association in the children of miners on the same social level . . .

This earlier work was strikingly confirmed by a very comprehensive study, by Fraser Roberts and his associates, of intelligence among an entire age-group of the children of Bath. They, too, showed this definite negative association between the children's intelligence quotient and the size of the family to which they belonged.

Human Fertility (*loc. cit*) publishes an article by Clarence J. Gamble, M.D., "The Deficit in the Birthrate of College Graduates," raising the spector of the Dodo bird for the male and female college graduates in measured phrases and words of solemn portent:

The need of large numbers of a highly educated personnel in modern society is obvious and the evidence of a present deficit in those with the hereditary qualities needed to absorb such education is inescapable . . .

To all of which Marion S. Olden in *Birthright, Inc.*, (*loc. cit.*

supra) adds *The Survival of the Unfittest,* in which Henry Pratt Fairchild[3] is quoted on population trends:

The population of the world up to a century and a half ago was much more nearly stationary than we are inclined to suppose . . . And then suddenly something happened . . . during the Nineteenth Century humanity added much more to its total volume than it had been able to pile up during the previous million years, and in 150 years it nearly trebled the number These are the most amazing figures in the whole gallery of statistical pictures. Their essential significance is actually incomprehensible. We are blind to it only because the habituation of our own individual lifetime causes us to regard as "natural" or "normal" that which is really absolutely unique in human experience.

The article includes extensive analyses of statistics to show what sort of people are producing those who will be responsible for the future of this country. It is shown that college graduates and high-school graduates had underreplaced themselves by 45 per cent and 21 per cent, respectively, while those with only one to four years of grade school had overreplaced themselves by 95 per cent. Also, it was found that the lowest economic third of our families have overreplaced by 76 per cent, while the highest economic third has underreplaced by 19 per cent. This difference has increased among women of 30 to 35 years.

But don't stop there, gentlemen; for a little contrast in style and content, leap to 1930 with Señor Ortega y Gasset. His *Revolt of the Masses* (W. W. Norton Co.) will bring to your attention the European mass mind and its workings, together with the inwardness thereof and its historical background. Ortega y Gasset with no implication of humor says:

"The Mass Man is he whose life lacks any purpose, and simply goes drifting along.... And it is this type of man who decides in our time.... Hence, at times he leaves the impression of a very primitive man suddenly risen in the midst of a very old civilization. In the schools . . . it has been impossible to do more than instruct the masses in the technic of modern life; it has been found impossible to educate them . . . they have been hurriedly inoculated with the pride and power of modern instruments, but not with their spirit . . ."

And, was it not Dr. Earnest Albert Hooton, who, in 1940, advised all and sundry how to tell your friends from apes, in a volume (Princeton University Press) entitled *Why Men Behave Like Apes and Vice Versa?* From editorial, New York State Journal of Medicine, August 1, 1947, page 1673. **Abstracted by C. H. K.**

[3] Harper's Monthly Magazine, May, 1938.

Effect of Ultraviolet Air Sterilization in Children's Institution,—Installation of ultraviolet radiant units in the children's building of St. Luke's Convalescent Hospital subjects every cubic foot of air in the building to a sterilizing effect equivalent to more than 100 complete air changes per hour. The output of the bulbs is tested periodically with a Luckiesh-Taylor ultraviolet meter containing a special fluorescent material whose maximum sensitivity is for 2,537 angstroms radiation. If the efficiency of the lamps falls below 75 per cent of their original output the incidence of infection begins to rise. Frequent dusting of the lamps is important During 1943 the lights were turned off for several months because of a shortage of bulbs, and the incidence of infections showed an upward trend. During the three year control period 3.98 per cent of the children were febrile, as against 2.38 per cent for the three year experimental period. This shows a difference of 1.60 per cent, or eleven times the standard error of the difference. Comparison of the control and experimental periods during the winter months alone again shows a difference of 1.96 per cent, which is again eleven times the standard error of the difference. These figures indicate a reduction of 33 per cent in the number of children febrile from respiratory disease for the treated years as against the untreated years. House plants do not tolerate the ultraviolet radiation and usually die. Otherwise there have been no deleterious effects from the lights. The children have no difficulty in sleeping in the faint glow, which resembles moonlight. The attendant staff soon observed that the usual children's institution odor had completely disappeared, and some of the nurses commented on the freshness of the atmosphere. Journ. A.M.A., August 9, 1947, page 1267.

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School and Classroom Management of Pupils with Diabetes,—The principal is to obtain at the beginning of each new term the names of pupils known to have diabetes.

Ascertain these facts from the child's physician or parents:

1. Is pupil receiving insulin?
2. To what extent should child engage in vigorous exercises? (strenuous exercise may suddenly reduce the child's blood sugar, and result in insulin shock).

Teachers in charge of diabetic pupils, receiving insulin, should know that sudden pallor, giddiness, delirium, incoherent speech, cold sweat, faintness, loss of consciousness, are symptoms and signs of insulin shock.

Teachers should be sure that such diabetic pupils carry a piece of hard candy, or lump of sugar in their pockets, to be taken immediately when symptoms of insulin shock threaten.

Teachers should enter on pupil's health card, the statement (Date "Diabetic" "Receives Insulin," "Guard against vigorous exercises").

Proposed Diabetic's Card

Front

I AM DIABETIC

Name ..... Address ..... Telephone .....

School .....

I receive ..... units of regular insulin.

I receive ..... units or protamin insulin.

If I am found ill, or in insulin shock, and if sugar, oragne juice, or sweetened fluids do not cause definite improvement within 10 minutes, please call a physician.

Dr. ..... Telephone .....

Or send me to a hospital.

Reverse side

I AM DIABETIC

(Depending on severity)

Sudden pallor	Cold sweat
Giddiness	Faintness
Incoherent speech	Delirium

Loss of consciousness

—*Procedures in Health Education for Girls, Board of Education of the City of New York.*

* * * * *

The New York State Association of School Physicians at its annual session on July 26, 1947, at Saratoga Springs, N. Y., elected Dr. Adele Brown, Oswego, as president for the coming year to succeed Dr. Edgar Bieber, Dunkirk. Other officers named were Dr. Melvin T. Woodhead, Amsterdam, vice-president, and Dr. A. E. Maines, Kenmore, secretary-treasurer. Dr. C. H. Maxwell, Albany, and Dr. Marjery J. Nelson, Mount Vernon, were elected members of the executive committee.

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REVIEW

Units in Personal Health and Human Relations, *Biester, Lillian L., Griffiths, William, and Pearce, N.O., M.D.* University of Minnesota Press, Minneapolis, Minn. 1947, pp 267. Price $3.50.

This text, designed for the use of teachers, presents materials

and methods for teaching sex education at the level of the kindergarten, and in the sixth to fourteenth grades. Its objective is to give information and procedures whereby teachers may "give the child a matter of fact acceptance of sex, and an unemotional attitude toward his body."

The method used in the book itself is that of question, answer—sometimes an extended one, but usually brief—and reference. This is a convenient and time-saving arrangement, and ultimately gives the teacher a list of the leading texts and authorities in this field. Its language is clear and definite.

This is an excellent text, easily usable, and should be made accessible to all teachers, even though the majority of them are not presenting course instruction in sex education.—*Charles H. Keene, M.D.*

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MEETINGS

The American School Health Association and the American Public Health Association, at Atlantic City, October 5-9, 1947

Headquarters, American School Health Association, Hotel Dennis.

Note: this year the professional program of the **School Health Association** will begin Sunday afternoon instead of on Monday as formerly.

The Program was published in the September Journal.